

Applicant : Lee Mizzen *et al.*
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⁵⁸ 58. (Amended) The fusion protein of claim ⁵³ 54, wherein the fusion protein is encoded by plasmid pET65MP/NP-B or plasmid pET65MP/NP-D.

⁵⁹ 59. (Amended) The fusion protein of claim ⁵³ 54, wherein the antigen includes a CTL epitope.

⁶⁰ 60. (Amended) A fusion protein comprising an antigen of an influenza virus, or an antigenic portion thereof, and a bacterial stress protein, or a portion thereof, wherein the fusion protein induces an immune response against the antigen in a mammal to whom the fusion protein is administered.

⁶¹ 61. (Amended) The fusion protein of claim ⁶⁰ 60, wherein the bacterial stress protein is a mycobacterial stress protein.

⁶² 62. (Amended) A composition comprising the fusion protein of claim ⁵³ 54 and a pharmaceutically acceptable excipient, carrier, diluent, or vehicle.

⁶³ 63. (Amended) A method of inducing an immune response against an antigen of an influenza virus, the method comprising administering the fusion protein of claim ⁵³ 54 to a vertebrate in an amount effective to induce an immune response against the antigen.

⁶⁴ 64. (Amended) The method of claim ⁶³ 63, wherein the fusion protein is administered in combination with a pharmaceutically acceptable excipient, carrier, diluent, or vehicle.

⁶⁵ 65. (Amended) A method of inducing an immune response against an antigen of the influenza virus, the method comprising administering the fusion protein of claim ⁵³ 54 to a vertebrate in an amount effective to induce an immune response against the antigen.

⁶⁶ 66. (Amended) The method of claim ⁶⁵ 65, wherein the fusion protein is administered in combination with a pharmaceutically acceptable excipient, carrier, diluent, or vehicle. --

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Add claims 68-87.

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68. The fusion protein of claim ⁵³54, wherein the immune response is a cell mediated immune response.

⁶⁸69. The fusion protein of claim ⁶⁷68, wherein the cell mediated immune response is a cell mediated cytolytic immune response.

⁶⁹70. The fusion protein of claim ⁶¹62, wherein the stress protein is hsp65.

⁷⁰71. The fusion protein of claim ⁶¹62, wherein the stress protein is hsp71.

⁷¹72. The fusion protein of claim ⁵³54, wherein the stress protein is an Hsp100-200, an Hsp100, an Hsp90, Lon, an Hsp70, an Hsp60, TF55, an Hsp40, an FKBP, a cyclophilin, an Hsp20-30, ClpP, GrpE, Hsp10, ubiquitin, calnexin, or a protein disulfide isomerase.

⁷²73. The method of claim ⁶³64, wherein the immune response is a cell mediated immune response.

⁷³74. The method of claim ⁷²73, wherein the cell mediated immune response is a cell mediated cytolytic immune response.

⁷⁴75. A fusion protein comprising a human papillomavirus (HPV) antigen, or an antigenic portion thereof, and a stress protein or a portion thereof, wherein the fusion protein induces an immune response to the HPV antigen in a mammal to whom the fusion protein is administered.

⁷⁵76. The fusion protein of claim ⁷⁴75, wherein the HPV antigen is an E6 protein.

⁷⁶77. The fusion protein of claim ⁷⁴75, wherein the HPV antigen is an E7 protein.

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78. The fusion protein of claim ⁷⁴75, wherein the HPV antigen includes a CTL epitope.
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79. The fusion protein of claim ⁷⁴75, wherein the stress protein is a bacterial stress protein.
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80. The fusion protein of claim ⁷⁴75, wherein the stress protein is an Hsp100-200, an Hsp100, an Hsp90, Lon, an Hsp70, an Hsp60, TF55, an Hsp40, an FKBP, a cyclophilin, an Hsp20-30, ClpP, GrpE, Hsp10, ubiquitin, calnexin, or a protein disulfide isomerase.
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81. The fusion protein of claim ⁷⁴75, wherein the stress protein is a mycobacterial stress protein.
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82. The fusion protein of claim ⁸⁰81, wherein the stress protein is hsp65.
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83. The fusion protein of claim ⁸⁰81, wherein the stress protein is hsp71.
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84. The fusion protein of claim ⁷⁴75, wherein the immune response is a cell mediated immune response.
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85. The fusion protein of claim ⁸³84, wherein the cell mediated immune response is a cell mediated cytolytic immune response.
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86. A composition comprising the fusion protein of claim 75 and a pharmaceutically acceptable excipient, carrier, diluent, or vehicle.
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87. The fusion protein of claim ⁷⁰77, wherein the stress protein is mycobacterial Hsp65.--